PHYSICIAN INVOLVEMENT IN HOSPITAL EMERGENCY ROOMS AND OUTPATIENT DEPARTMENTS

FINAL REPORT

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1.0 INTRODUCTION

1.1 Overview of Trends in Emergency Room Activity

With the emergence of freestanding emergency centers (FECs) and the gaining popularity of alternate health plans such as health maintenance organizations (HMOs) or preferred provider organizations (PPOs), hospital emergency rooms (ERs) are facing stiff competition for patients. HMOs and PPOs seek to control costs by limiting the use of hospital ERs for nonurgent care. In addition, FECs are marketing themselves as alternatives to the hospital ER because of their convenience and their lower costs.

In recent years, visits to hospital ERs have declined following years of steady increase. We see from Table 1-1 that the number of visits to emergency departments in short-term community hospitals increased by 3 percent in 1974-75, by 4 percent in 1975-76, and by 5 percent in 1977-78. The number of ER visits was relatively constant from 1978 through 1981, averaging 76.8 million visits. In the following two years, the volume of visits declined, by 2 percent in 1981-82 and by 4 percent in 1982-83.

A study by Ferber and Becker (1983) examined the impact of FECs on hospital ER visits by comparing hospital ER use in areas with FECs (n=94) versus areas without FECs (n=1,125). The authors conclude there were no statistically significant differences in the number of ER visits made to the two groups of hospitals. The authors note, however, that FECs may have slowed the rate of growth of hospital ER visits, possibly because of strategic location of FECs near busier hospital ERs. A survey conducted by the Institute for Health Policy Studies (IHPS) and the American Hospital Association (AHA), reported that 28 percent of hospitals with an ER "compete" with an FEC located within five miles of the hospital.

Not only is the role of hospital ERs in the health care delivery system changing rapidly, their internal organization and operation are also changing. Historically, hospital ERs were staffed by interns and residents, attending physicians, moonlighters, or physicians meeting their private patients at the hospital ER. Staffing patterns have changed with the development of a new specialty of "emergency medicine" in the mid-1970s. Physicians specially trained in this area have taken over the day-to-day operation of many hospital emergency rooms. In addition, new staffing arrangements have evolved, such as multi-hospital emergency physician groups. According to the IHPS/AHA survey, only 21 percent of emergency rooms are staffed by rotating medical staff physicians. Nearly half

TABLE 1-1

VISITS TO EMERGENCY DEPARTMENTS* IN SHORT-TERM COMMUNITY HOSPITALS, 1974-1983

Year	Number of Visits	Percent change over previous year
1983	72,721,575	-4.3%
1982	75,981,004	-2.0
1981	77,492,569	0.3
1980	77,245,450	1.2
1979	76,328,177	0.3
1978	76,122,758	4.8
1977	72,607,460	1.0
1976	71,863,665	4.2
1975	68,936,557	3.2
1974	66,785,311	--

*An emergency department is defined as: Organized hospital facility for the provision of unscheduled outpatient services to patients whose conditions are considered to require immediate care. Must be staffed 24 hours a day.

SOURCES: American Hospital Association, Hospital Statistics, 1975 through 1984, Table 5A.

(48 percent) are staffed by a physician's group (hospital or nonhospital-based) on contract. Another 13 percent contract with individual physicians on a full-time or part-time basis.

A recent article in Medical Economics compared emergency medicine (EM) specialists to all physicians (Owens, 1985). EM specialists are younger, work fewer hours, have fewer practice expenses and more bad debts compared to all physicians. However, EM specialists comprise a very small portion of the hospital's emergency room staff. This report examines physician involvement in hospital ERs--comparing those who specialize in emergency medicine to those in other specialties who spend a lot, a little, or no time in the ER. This is a timely subject in light of external competitive pressures and internal institutional pressures facing hospital emergency rooms.

1.2 Motivation

The 1984-85 Physicians' Practice Costs and Income Survey (PPCIS) provides a unique source of information on physicians' involvement in hospital emergency rooms. The PPCIS interviewed a national sample of physicians on their practice patterns, costs, and fees, including the amount of time spent in a hospital emergency room or outpatient department (ER/OPD). The PPCIS database is enriched with the addition of secondary data on physician and bed availability, population indicators, and per capita income for the county of the physician's practice. Also, hospital-level data from the American Hospital Association have been merged to the PPCIS for the hospital with which the physician is primarily affiliated.

In this report we classify physicians into one of four categories: self-designated emergency medicine (EM) specialists, those with a high level of ER/OPD activity relative to their total medical hours, a low level of ER/OPD activity, or no ER/OPD activity.

Four general policy questions concerning physician involvement in emergency room services are addressed:

- Who staffs hospital ERs and OPDs, in terms of specialty, employment status, and level of involvement?
- What are the characteristics of physicians who staff hospital ERs and OPDs (e.g., age, sex, race, FMG status)?

- Do EM specialists differ from other physicians (i.e., those with high, low, or no ER/OPD activity) in their practice costs, income, and hospital financial arrangements?
- Are the responses to two Medicare policy changes -- the Prospective Payment System and the Physician Participation Agreement program -- different, depending upon the physician's level of ER/OPD involvement?

1.3 Summary of Findings

This study examines physician involvement in hospital emergency rooms and outpatient departments (ER/OPDs). Emergency medicine (EM) specialists are compared to physicians in other specialties who spend a lot, a little, or no time in the ER/OPD.* According to the 1984-85 Physicians' Practice Costs and Income Survey, of the 222,440 physicians (weighted estimate):

- 4 percent (9,200) are emergency medicine specialists,
- 22 percent (48,900) engage in high ER/OPD activity,
- 34 percent (74,700) engage in low ER/OPD activity,
- 40 percent (89,700) provide no services in the ER/OPD.

We examined the specialty shares of total visits to the ER/OPD. While only 4 percent of all physicians, emergency medicine specialists account for a disproportionate share of visits to the ER/OPD.

- Emergency medicine specialists account for 43 percent of total patient visits to the ER/OPD, medical specialists 21 percent, surgical specialists 18 percent, general practitioners and family practice physicians 13 percent, and 4 percent for all other physicians in other specialties.

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*Physicians with high ER/OPD activity spent 10 percent or more of their medical hours in the ER/OPD, while those with low ER/OPD activity spent less than 10 percent of their time in this setting. Of course, those with no ER/OPD activity spent no time in the ER/OPD.

EM specialists were compared to the other physician groups on a range of biographical and specialty characteristics. EM specialists are younger, more likely to be white, and graduates of U.S. medical schools and less likely to be board certified than other physician groups.

- EM specialists' average age is 40 as compared to a range of 46-50 years for the other three groups.
- The white-nonwhite ratio for EM specialists is 11 to 1, twice that of other groups.
- 88 percent of EM specialists are U.S. medical graduates compared to 78 percent of all physicians.
- Only 38 percent of EM specialists are board certified, compared to 62-73 percent for the other groups.

We compared physician location across the groups and found no differences in regional distribution or urban/rural mix.

Large differences existed between EM specialists and non-EM specialists reporting high ER/OPD activity in terms of the numbers of hours worked and the number of patients seen.

- EM specialists see 138 patients a week, while physicians in the high ER/OPD activity group have 121 patient visits a week.
- EM specialists work an average of 51 hours a week as compared to 55 hours a week for the high ER/OPD activity group.

More visits over fewer hours results in EM specialists having somewhat more patient visits an hour.

- EM specialists see an average of 2.8 patients per hour, as compared to 2.3 in the high ER/OPD activity group.

More specifically, we looked at time spent in the ER/OPD. EM specialists have a greater percentage of their total patient visits in the ER/OPD setting and see more patients per hour in that setting than the high ER/OPD activity group.

- 96 percent of EM specialists' total visits are in the ER/OPD, while only 18 percent of the high ER/OPD activity group's visits are in the ER/OPD.
- EM specialists see an average of 1.5 more patients per hour in the ER/OPD setting than high ER/OPD activity physicians (3.1 as compared to 1.6).

In addition, EM specialists see a higher volume of Medicaid patients than high ER/OPD physicians.

- EM specialists see 17 Medicaid patients a week, high ER/OPD activity physicians see just 12.

Emergency medicine specialists were found to be very different from the other three groups in their hospital affiliation and employment setting. In particular, EM specialists were much more likely than high ER/OPD physicians to be employed by a hospital, physician, or corporation.
Most of the EM specialists who were self-employed were in a group practice. The self-employed high ER/OPD activity group physicians were mostly in a solo practice.

- 71 percent of EM specialists are employed by either a hospital or another physician or corporation as compared to only 20 percent of physicians reporting high ER/OPD activity.
- 26 percent of EM specialists are self-employed, mostly in group practice (76 percent), while 71 percent of high ER/OPD activity physicians are self-employed, 63 percent of which are in a solo practice.

EM specialists are more likely to have a hospital financial arrangement and therefore rely more on income derived from the hospital.

- Compared to those with high ER/OPD activity, EM specialists are more than twice as likely to be on straight salary, paid on a fee-for-service or have some other arrangement with a hospital.
- 83 percent of the EM specialists received one-half or more of their medical practice income from hospital or clinic contracts, versus 27-45 percent of the other groups.

The net physician incomes of EM specialists are lower than non-EM specialists. Also, EM specialists pay less for own malpractice insurance than other physicians.

- Mean net physician income was about $10,000-$15,000 lower for EM specialists ($87,000) than for those with high or low ER/OPD activity ($98,000 and $105,000, respectively).
- EM specialists' own malpractice payments average $7,132 which is about $800 lower than the average for physicians with high ER/OPD activity ($7,927) and about $1,000 lower than that for physicians with low ER/OPD activity ($8,155).

The PPCIS allowed us to look at the impact of two Medicare policy changes: (1) perceptions of the short-run impact of Medicare's Prospective Payment System (PPS) and, (2) whether physicians signed the Medicare Physician Participation Agreement (PPA). Respondents were asked whether physicians in their hospital were encouraged to make certain changes in inpatient activity during the past year, and if so, whether the changes were due to Medicare's PPS. The perceived impact of PPS was consistently higher for EM specialists than for physicians with high ER/OPD activity.

- EM specialists were more likely than high ER/OPD activity physicians to report pressures in their hospitals to discharge sooner (72 versus 63 percent); to reduce ancillaries (43 versus 38 percent); and to increase admissions (21 versus 16 percent).

The percent of physicians signing the Medicare PPA varied across levels of ER/OPD involvement. EM specialists were far more likely to sign the PPA.

- Over half of the self-employed EM specialists signed the Medicare PPA, compared to 36 percent of those with high ER/OPD activity, 30 percent with low ER/OPD activity, and 34 percent with no ER/OPD activity.

1.4 Limitations

This report has several limitations. First, the categorization of physicians by level of activity in hospital ERs and OPDs is constrained by the survey instrument. Physicians were not asked solely about the number of hours spent in a hospital ER, but rather the hours worked in a hospital emergency room or outpatient department. Thus, two groups of physicians -- "high ER/OPD activity" and "low ER/OPD activity" -- may include physicians who worked only in an OPD (and not at all in an ER) or who worked part of the time in the ER and part in the OPD.

Another limitation concerns the absence of any questions on work effort in a freestanding emergency center. Some physicians may have included FEC visits under office-based care.

Third, the PPCIS was fielded from October 1984 through June 1985. Since the interview was conducted, a physician's involvement in hospital ERs may have changed due to increasing competition from FECs and HMOs (among other forces) or more generally, due to frequent turnover of ER staff.

1.5 Organization of Report

The data source for this analysis is the 1984-85 Physicians' Practice Costs and Income Survey, conducted by NORC (National Opinion Research Center), and described in Chapter 2. The method for classifying physicians according to their level of ER/OPD involvement is also described in Chapter 2. Chapter 3 presents an overview of physician involvement in hospital ER/OPDs, including specialty mix and employment status. In Chapter 4, physicians are compared according to their level of ER/OPD involvement on a wide range of characteristics, such as age, sex, race, FMG status, and board certification status. We are particularly interested in determining whether EM specialists differ from those with high, low, or no ER/OPD activity. Chapter 5 examines practice costs and hospital financial arrangements. We expect those with substantial ER/OPD involvement to receive different forms of compensation (e.g., free space, malpractice costs paid by the hospital). Finally, in Chapter 6 we analyze the impact of two Medicare policy changes on physicians -- the Prospective Payment System and Physician Participation Agreement program -- according to the physicians' level of ER/OPD involvement.

2.0 DESCRIPTION OF THE PHYSICIANS' PRACTICE COSTS AND INCOME SURVEY

2.1 Overview

Between October 1984 and June 1985, NORC (National Opinion Research Center) conducted a detailed national survey of physicians. The Physicians' Practice Costs and Income Survey (PPCIS) was supported under a contract with the Health Care Financing Administration (HCFA). Health Economics Research, Inc. (HER) serves as a subcontractor for the data analysis.

The survey has ten main objectives:

1. Medicare Economic Index (MEI) update
2. Financial arrangements in the physician's practice
3. Physician participation in public programs
4. Physician fees and third-party payments
5. Insurance coverage of physician's patients
6. Medicare out-of-pocket collections and bad debts
7. Physician productivity and setting of care
8. Physician-hospital relationships (including effect of DRGs)
9. Physician characteristics
10. Patient characteristics.

The PPCIS was chosen as the database for this analysis because physicians were asked about their involvement in hospital emergency room and outpatient department (ER/OPD) settings, regardless of their specialty. Thus, we were able to compare physicians of varying levels of ER/OPD activity on a wide range of personal and practice characteristics. Secondary data on characteristics of the hospitals with which the physicians were primarily affiliated were linked to the PPCIS. The combination of primary data from the physicians and secondary hospital-level data provides a unique and rich database to analyze physician involvement in hospital emergency rooms and outpatient departments.

2.2 Sample Design

2.2.1 Sampling Frame

The sampling frame for the Physicians' Practice Costs and Income Survey was the list of 331,264 physicians contained in the 1984 Physician Master File and maintained by the American Medical Association. (The sampling frame is a listing from which the sample is to be selected and should include virtually all members of the target population.) In contrast to previous years, physicians in office-based and hospital-based practices are included, as well as physicians in large group practices (more than nine physicians), and in alternative practice modes such as HMOs, PPOs, and IPAs.

The target population of the PPCIS includes physicians meeting the following criteria:

- in active practice at the time of interview, providing patient care at least 20 hours per week in an office-based or hospital-based setting (excluding residents, full-time faculty members, and research fellows);
- engaged in patient care during some part of calendar year 1983;
- not employed by the Federal Government;
- practicing in the 50 United States and the District of Columbia (but excluding the U.S. territories); and
- belonging to a recognized medical specialty, excluding osteopaths, chiropractors, dentists, and limited license physicians.

NORC used a single stage, stratified element level, random sampling design based on 136 discrete strata that were defined in three basic dimensions: Specialty Group, Geographic Region, and Degree of Urbanization. The categories in each dimension are listed in Table 2-1. The sample allocation among the strata was proportional to the distribution in the population except for low incidence specialties. Four office-based specialties were oversampled to achieve a minimum of 200 sample cases (cardiology, orthopedic surgery, ophthalmology, urology), while three hospital-based specialties were oversampled to obtain a minimum sample size of 300 cases (radiology, anesthesiology, and pathology).

The next two sections discuss the survey response rate (according to the three dimensions), and the sample weights (used to derive national estimates).

TABLE 2-1

DIMENSIONS OF 136 STRATA: PHYSICIANS' PRACTICE COSTS AND INCOME SURVEY

Dimension I -- Specialty Group* (17)

General Practice
Family Practice
Internal Medicine
Cardiology
Pediatrics
Other Medical Specialties
General Surgery
Orthopedic Surgery
Ophthalmology
Urology
Obstetrics/Gynecology
Other Surgical Specialties
Psychiatry
Anesthesiology
Pathology
Radiology
All Other Specialties

Dimension II -- Census Region** (4)

Northeast
North Central
South
West

Dimension III -- Degree of Urbanization (2)

Metropolitan Statistical Areas
Outside Metropolitan Statistical Areas

Total Number of Strata [17 x 4 x 2] = 136

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*Refer to Appendix A for definition of specialty groups.
**Refer to Appendix B for definition of regions.

2.2.2 Survey Response Rate

Of the 8,947 cases for which eligibility was determined, 2,100 (23.5 percent) were found to be ineligible (see Table 2-2). A case was considered ineligible if it met one or more of the following criteria: (1) did not provide patient care at least 20 hours per week at the time of interview; (2) did not, in any part of 1983, engage in patient care for at least 20 hours per week; (3) was a resident or research fellow at a medical school; (4) was employed by the Federal Government; (5) was employed by state/local government in a non-patient care capacity; (6) lived outside the 50 United States or the District of Columbia; (7) was a full-time faculty member, unless providing at least 20 hours of patient care per week; or (8) the whereabouts could not be located.

Overall, a weighted completion rate of 67.7 percent was obtained. (Completion rates were adjusted to account for cases in which eligibility was not determined.) A case was considered "complete" if a core set of questions was answered. At a minimum, the respondent was required to answer selected questions related to: eligibility and practice arrangements, Medicare participation agreements, hospital affiliation, prospective payment system impacts, financial arrangements with hospitals, insurance status of patients and bad debts, malpractice payments and practice income, alternative health plan arrangements, and productivity.

There was a wide range in completion rates by specialty, with a high of 77 percent among anesthesiologists and a low of 53 percent among cardiologists (Table 2-2). The response rate by region ranged from 66 percent in the West to 71 percent in the North Central region. Among physicians in rural (non-MSA) areas, the response rate was 72 percent, compared to 67 percent of those in urban areas.

2.2.3 Sample Weights

Unless otherwise indicated, the data presented in the text and tables are weighted to provide national estimates. The weights reflect the disproportionate probability of selection across the 136 strata. (See

TABLE 2-2

RESPONSE TO 1984-1985 PHYSICIANS' PRACTICE COSTS AND INCOME SURVEY BY SPECIALTY, CENSUS REGION, AND DEGREE OF URBANIZATION

Dimension	Number of cases with eligibility determined*	Ineligible Cases		Completed Cases	
		Number	Percent of cases ineligible**	Number	Weighted completion rates***
Total	**8,947**	**2,100**	**23.5%**	**4,729**	**67.7%**
Specialty					
General Practice	663	192	29.0	315	64.8
Family Practice	574	91	15.9	351	72.2
Internal Medicine	948	230	24.3	455	62.5
Cardiology	379	72	19.0	167	53.1
Pediatrics	597	164	27.5	300	68.0
Other Medical	517	92	17.8	284	65.9
General Surgery	484	106	21.9	271	70.8
Orthopedic Surgery	308	44	14.3	154	56.2
Ophthalmology	315	58	18.4	160	61.1
Urology	340	61	17.9	187	65.9
Obstetrics/Gynecology	490	81	16.5	281	66.1
Other Surgical	345	69	20.0	188	66.8
Psychiatry	573	156	27.2	321	74.4
Anesthesiology	569	146	25.7	330	76.7
Pathology	618	191	30.9	321	74.9
Radiology	594	144	24.2	327	72.1
All Other Specialties	633	203	32.1	317	70.9
Census Region					
North East	2,255	626	27.8	1,139	69.9
North Central	2,002	465	23.2	1,090	70.9
South	2,719	575	21.1	1,480	69.0
West	1,971	434	22.0	1,020	66.4
Degree of Urbanization					
Metropolitan Statistical Areas	7,556	1,872	24.8	3,873	66.8
Outside Metropolitan Statistical Areas	1,391	228	16.4	856	72.0

*A total of 9,130 cases were fielded.

**Percent of cases ineligible = number of ineligible cases/number of cases with eligibility determined.

***These rates reflect an adjustment for cases of indeterminate eligibility (data not shown). Cases with indeterminate eligibility were assigned to the "eligible" or "ineligible" categories, based on the proportions for the cases for which eligibility was determined.

Section 2.2.1.) Within the 136 strata, all physicians have the same probability of selection into the sample. The weights also take into account nonresponse within each stratum.

The weight for each stratum is derived as follows:

$W_j = (N/D)_j * (C/A)_j$

where W_j = sample weight in the jth stratum;
N_j = sampling frame size (i.e., size of the target population);
A_j = contacted cases for which eligibility was determined;
C_j = cases eligible for interview;
D_j = completed cases.

The sampling frame size (N_j) corresponds to the number of physicians in the jth stratum, as measured by the 1984 AMA Physician Master File. (The frame size was calculated for each of the 136 strata.) The number of cases eligible for interview (C_j) is a subset of the number of cases for which eligibility was determined (A_j). The ratio, $(C/A)_j$ is the percent of contacted cases that were eligible for the survey (based on the eligibility criteria discussed in Sections 2.2.1 and 2.2.2). The denominator (D_j) represents the number of completed cases in each stratum.

Consider, for example, the weight for general practice physicians in urban areas, in the Northeast. The AMA Master File identifies 675 such physicians, of which 20 were selected into the PPCIS sample. Eligibility was determined for 17, and 16 of the 17 were deemed eligible. Altogether, 13 of the 16 eligibles participated in the PPCIS. Based on this example: $N = 675$, $A = 17$, $C = 16$, and $D = 13$. Thus, the weight for this stratum would be: $W = (675/13)*(16/17) = (51.9)(.94) = 48.9$. Each of the 13 physicians interviewed represented 51.9 physicians in the stratum, with a minor downward adjustment (6 percent) for ineligibles in the stratum, yielding an adjusted weight of 48.9.

The weight (W_j) reflects the extent physicians in a particular stratum will be emphasized in generating the national estimates. For the purpose of this report, computations were based on a rounded weight to accommodate restrictions of the SAS procedures used to generate the statistics. Thus, based on the above example, each general practice physician in an urban area in the Northeast has a weight of 49, in calculations based on weighted data.

2.3 Relevant Questionnaire Items

Three questions on the PPCIS instrument were used to classify patients according to their level of ER/OPD involvement and to determine their patient load in the ER/OPD. Questions 30, 33 and 35 queried physicians on their work schedule during their last full week of practice. Question 30 asked physicians how many total hours were spent at medical activities:

> Q30. Altogether, during those 7 days, about how many hours would you say you spent working at medical activities? Please exclude "on call" hours not actually worked, travel time and any administrative time.

Question 33 asked physicians how many of those medical hours were spent in each of the following categories: with patients in the office, in the hospital, in surgery, in nursing homes, supervising interns, and treating patients in the hospital emergency room and hospital out-patient clinics. Question 35 asked physicians how many patient visits were made in each of those settings. (Each time a patient is seen counts as one visit). See Exhibit 1 for the exact wording of these questions. We were most interested in questions 33B and 35B because they referred to emergency room and outpatient department settings.

2.4 Classification of Physicians by Level of ER/OPD Involvement

The physicians who work in emergency rooms and outpatient departments can be from a wide variety of specialties. We have classified physicians according to two criteria: self-reported specialty and amount of time spent providing care in the ER/OPD setting. Figure 2-1 is a flow chart describing how we divided the physicians into four groups. The first group includes physicians who self-reported emergency medicine as their specialty. We decided to use the physician's self-reported specialty rather than the AMA specialty (from the AMA Physician Master File) because of the frequent movements in and out of emergency medicine. Only 48 percent of the physicians who considered themselves emergency medical specialists were so designated on the AMA Master File. EM specialists are a relatively small group: 176 physicians in the PPCIS sample self-reported this specialty.

EXHIBIT 1 - RELEVANT QUESTIONNAIRE ITEMS

- RADIOLOGIST, ANESTHESIOLOGIST, PATHOLOGIST SKIP TO Q. 36.
- ALL OTHERS ASK Q. 33-35.

33. Now, think again about your last full week of practice. I'm going to ask about the number of hours you spent with patients in the office, in the hospital, in surgery, in nursing homes and supervising interns. You said that you spend (HRS. IN Q. 30) hours at medical activities. How many of those (HRS IN Q. 30) hours did you spend . . .

A. With patients in the office? ________ hrs.

B. Treating patients in the hospital emergency room and hospital out-patient clinics? ________ hrs.

C. On operations and surgical assists, including normal deliveries? ________ hrs.

D. On regular hospital rounds with your patients or with patients of other doctors? ________ hrs.

E. With patients in nursing homes, convalescent homes, or extended care facilities? ________ hrs.

F. Directly supervising intern or resident care of patients? Please do not include any time you have already mentioned. ________ hrs.

G. In any other medical activities? ________ hrs.

TOTAL ________ hrs.

FOR EACH ITEM CODED IN Q.33, ASK Q.35

35. During that week how many . . .

RECORD # PATIENT VISITS BELOW.

A. Patient visits did you yourself have in your office? (Count as one visit each time you saw a patient.) ________

B. Patients did you see in hospital emergency rooms and out-patient clinics? (Count as one visit each time you saw a patient.) ________

C. Operations and assists did you participate in? ________

IF ANY, ASK C1.

1. Were any of those operations or surgical assists done in a free standing embulatory surgical facility?

Yes 1
No 2

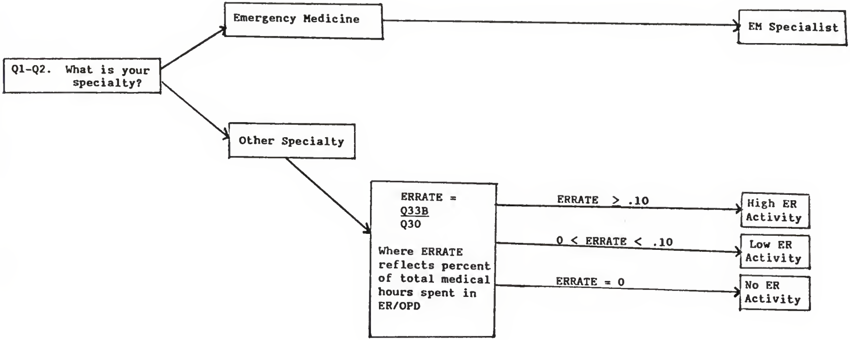
D. In-patient visits did you make on hospital rounds? Please exclude visits to patients seen in emergency rooms or out-patient settings. (Count as one visit each time you saw a patient.) ________

E. Patient visits did you make to nursing homes, convalescent homes, or extended care facilities? ________

SKIP TO INSTRUCTIONS ABOVE Q.39.

FIGURE 2-1

CLASSIFICATION OF PHYSICIANS BY LEVEL OF ER/OPD INVOLVEMENT



The next three groups are based on the percent of total hours spent in an ER/OPD setting. A ratio was derived (ERRATE) that was equal to the hours reported in Q33B divided by the total hours spent at medical activities (reported in Q30). The median on ERRATE (excluding physicians with ERRATE=0) was chosen as the threshold for dividing the physicians according to their level of ER/OPD involvement. The median is 0.10. Physicians with an ERRATE greater than or equal to 0.10 (i.e., spending more than 10 percent of total medical hours in the ER or OPD) were classified in the high ER/OPD activity group. Where ERRATE was less than 0.10 (i.e., spending less than 10 percent of time in the ER or OPD), the physicians were placed into the low ER/OPD activity group. Physicians who spent zero hours in the ER or OPD were classified in the no ER/OPD activity category. This last group includes 10 physicians who considered themselves emergency medicine specialists but who spent no time in the hospital ER or OPD (as measured by Q33B). We decided to classify these 10 physicians with no hospital ER/OPD activity into the "no ER/OPD activity" group because of this report's focus on hospital-based emergency services. These physicians may be working in freestanding emergency centers or for HMOs.

We chose to define the level of ER/OPD activity by the time spent in the ER/OPD relative to total hours spent in medical activities (ERRATE), rather than the absolute amount of time spent in the ER/OPD (Q33B). We examined the relationship between ERRATE and Q33B and found the two measures were highly correlated; the correlation coefficient was 0.92.

Twenty physicians are missing from our analysis of the four groups due to missing data on Q30 or Q33B. In addition, radiologists, anesthesiologists and pathologists (n=970) are excluded entirely from this analysis.

2.5 Sources of Secondary Data

Data from the Physicians' Practice Costs and Income Survey are enriched by the addition of secondary data from four sources. (See Table 2-3.) The 1984 Physician Master File, maintained by the American Medical Association, was the sampling frame for the survey. This file was the source of data on the physician's age, sex, board certification status, and medical school attended. These variables were merged to the PPCIS analytic file based on a unique identifier assigned to each physician.

TABLE 2-3

LIST OF SECONDARY DATA USED IN THIS REPORT

Data Source	Sponsor	Unit	List of data elements
AMA Physician Master File (1984)	American Medical Association (AMA)	physician-level	o physician's age and sex o board certification status o medical school attended
Area Resource File (May 1984)	Office of Data Analysis and Management, Health Resources and Services Administration, DHHS	county-level	o patient care physicians o hospital beds o per capita income o total population o elderly population o low-income population
AHA Annual Survey of Hospitals (1982)	American Hospital Association (AHA)	hospital-level	o hospital ownership o bed size
HCFA's Interns and Residents (1984)	Health Care Financing Administration (HCFA)	hospital-level	o interns and residents per 100 hospital beds

The Area Resource File (ARF) provided county-level data on the availability of physicians, and hospital beds, elderly and poverty population, and per capita income. The Area Resource File is a unique resource for health-related research. Assembled by Applied Management Sciences under contract to the Health Resources and Services Administration, the ARF itself is a secondary database containing information from the American Medical Association, American Hospital Association, and Bureau of the Census, among others. The May 1984 version was linked to the PPCIS.

NORC obtained access to the Area Resource File through the Center for Health Administration Studies, University of Chicago. The identifier used to link the two files was the five-digit state and county FIPS code. The FIPS code came from the AMA Physician Master File for most cases. However, those physicians who had relocated required manual coding, with a FIPS code reflecting their new address. The merge between ARF and PPCIS successfully attached county-level data to every record in the PPCIS.

Most of the hospital-level data was obtained from the expanded file of the 1982 AHA Survey of Hospitals, conducted by the American Hospital Association. Basic data on hospital ownership and control and bed size were obtained from this source. Merging the AHA data to the PPCIS was a complicated process. Respondents were asked to give the name and address of the hospital with which they were primarily affiliated, if any. Coders looked up the hospital's name and address in an AHA directory to find the AHA hospital code (a six-digit identifier). The name and/or address reported by the physician frequently differed from the directory, thus complicating the task and demanding judgment by the coding supervisor. These codes were then merged onto the PPCIS analytic file, enabling us to link the AHA tape and the PPCIS analytic file.

The final data source was HCFA Interns and Residents Tape. (This tape was used to identify hospitals with teaching involvement.) The tape was released by HCFA in July 1984 and was obtained by special arrangement for this contract through the HCFA Project Officer. The linkage between the HCFA tape and the PPCIS analytic file required an intermediate step of linking the AHA hospital codes with a crosswalk to the Medicare Provider Codes (MPC). Additionally, some hand-coding of MPCs was required.

3.0 OVERVIEW OF PHYSICIAN INVOLVEMENT IN HOSPITAL EMERGENCY ROOMS AND OUTPATIENT DEPARTMENTS

3.1 National Distribution of ER/OPD Activity

In this chapter we provide an overview of physician involvement in hospital emergency rooms and outpatient departments (ER/OPDs). We examine ER/OPD staffing patterns in terms of specialty mix, work effort, and employment status.

Table 3-1 shows the distribution of physicians by level of ER/OPD involvement. (Refer to Section 2.4 for a discussion of the method used to classify physicians according to their level of ER/OPD involvement.) Of the 222,440 physicians, 4 percent (9,200) are emergency medicine specialists, 22 percent (48,900) engage in high ER/OPD activity, and 34 percent (74,700) in low ER/OPD activity. The remaining 40 percent (89,700) provide no services in the ER/OPD.

One group of physicians is of particular interest -- the EM specialists. About 9,200 physicians (176, unweighted) are self-designated EM specialists. This weighted estimate from the PPCIS is comparable to estimates from the AMA Physician Masterfile and the American College of Emergency Physicians (ACEP). According to the AMA Masterfile, there are 10,500 physicians whose primary specialty is emergency medicine (Owens, 1985). When the 300 osteopaths (D.O.s) and 1,000 medical residents not included in the PPCIS sample design are excluded, the AMA Masterfile also estimates 9,200 physicians specializing in emergency medicine. The ACEP estimates 15,000 emergency physicians as of August 1985 (ACEP, 1985). This number is larger than the PPCIS and AMA estimates because of the inclusion of D.O.s, residents, and physicians listing emergency medicine as a secondary specialty.

As shown in Table 3-1, most EM specialists (94 percent) were engaged in high ER/OPD activity while 6 percent provided no hospital-based ER/OPD services. (This represents only ten doctors in our sample.) These physicians may treat patients in a Freestanding Emergency Center (FEC) and report this time as office-based hours. The survey questionnaire specifically asks for the amount of time spent in the hospital emergency room or hospital out-patient clinic. For the analyses in this report, these physicians are included in the "no ER/OPD activity" group because the focus of this report is on hospital ER/OPD activity.

TABLE 3-1

OVERVIEW OF PHYSICIAN INVOLVEMENT IN EMERGENCY ROOMS OR OUTPATIENT DEPARTMENTS (ER/OPD)*

	Number of physicians	Percent of all physicians	Percent of physicians with ER/OPD activity
All physicians**	222,440	100.0%	100.0%
EM specialists	9,154	4.1	6.6
Any ER/OPD activity	8,666	(94.7)	(100.0)
No ER/OPD activity	488	(5.3)	(--)
Other Specialties			
High ER/OPD activity	48,901	22.0	37.0
Low ER/OPD activity	74,692	33.6	56.5
No ER/OPD activity	89,693	40.3	--

*The level of ER/OPD involvement is defined by the physician's self-reported specialty and amount of time spent in the ER/OPD relative to total medical hours. EM specialists are those who self-reported this specialty and who spent any time in the ER/OPD. Other specialists with high ER/OPD activity spent 10 percent or more of their medical hours in the ER/OPD, while those with low ER/OPD activity spent less than 10 percent of their time in this setting. Of course, those who spent no time in the ER/OPD had no ER/OPD activity.

**Excludes 31,036 radiologists, anesthesiologists and pathologists (RAPs) and 1,660 physicians with unknown level of ER/OPD involvement.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

EM specialists spend about three times as many hours in the ER/OPD as those with high ER/OPD activity and see nearly six times as many patients (Table 3-2). EM specialists reportedly spend an average of 46 hours a week in the ER/OPD, or 92 percent of their time spent on medical activities generally. In contrast, physicians in the high ER/OPD activity group who are not EM specialists spend an average of 14 hours a week in the ER/OPD which accounts for 26 percent of their total work effort. Physicians reporting low ER/OPD activity are only in the ER/OPD an average of 3 hours a week, or 5 percent of their total work week. During their 46 hours in the ER/OPD, emergency medicine specialists see an average of 132 patients a week in the ER/OPD compared with only 22 patients for those physicians with high ER/OPD activity and just 6 patients for physicians with low ER/OPD activity.

Table 3-3 shows the distribution of physicians across relative and absolute amounts of time spent in the ER/OPD. By definition, all physicians in the low ER/OPD activity group spend less than ten percent of their time in the hospital ER/OPD. Sixty percent spend less than 5 percent of their time in the ER/OPD. In addition these physicians all spend less than ten hours in the ER/OPD and 86 percent spend less than five hours in this setting.

Even though high ER/OPD physicians have been limited to those with at least 10 percent of their time spent in the ER/OPD, their relative dependence on this site of care is still far less than for EM specialists. Fully 99 percent of EM specialists spend at least 20 percent of their time in the ER/OPD versus only one-half of high ER/OPD physicians generally. Conversely, 7-in-10 EM specialists spend all their time in the ER/OPD while only about 2-in-100 high ER/OPD physicians do so.

3.2 Specialty Mix

There are two ways to analyze the specialty mix of hospital ERs. We can present the specialty distribution within each level of ER/OPD involvement or the ER/OPD time distribution within each specialty. The former gives the specialty mix of physicians highly dependent on this site of care while the latter provides a description of how dependent each specialty is on ER/OPD

TABLE 3-2

MEASURES OF ER/OPD WORK EFFORT,* BY LEVEL OF ER/OPD INVOLVEMENT**

Level of ER/OPD Involvement	Average Number of Hours Spent in ER/OPD	Percent of Hours In ER/OPD Relative To Total Work in Medical Activities	Average Number of Patients Seen in ER/OPD
EM Specialists	46.4 hours	92.3%	131.7 patients
High ER/OPD activity	14.3	26.1	22.3
Low ER/OPD activity	2.5	4.5	5.6

*Refers to physician's last full week of practice prior to interview.

**The level of ER/OPD involvement is defined by the physician's self-reported specialty and amount of time spent in the ER/OPD relative to total medical hours. EM specialists are those who self-reported this specialty and who spent any time in the ER/OPD. Other specialists with high ER/OPD activity spent 10 percent or more of their medical hours in the ER/OPD, while those with low ER/OPD activity spent less than 10 percent of their time in this setting. Of course, those who spent no time in the ER/OPD had no ER/OPD activity.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

TABLE 3-3

DISTRIBUTION OF PHYSICIANS ACCORDING TO RELATIVE AND ABSOLUTE TIME SPENT IN THE ER/OPD ACROSS LEVELS OF ER/OPD INVOLVEMENT*

Time Spent at Medical Activities	EM Specialists Percent of Total	EM Specialists Cumulative Percent	High ER/OPD Activity Percent of Total	High ER/OPD Activity Cumulative Percent	Low ER/OPD Activity Percent of Total	Low ER/OPD Activity Cumulative Percent
Percent of Total Time						
< 5%	0.6%	0.6%	0.0%	0.0%	58.6%	58.6%
5 - < 10%	0.0	0.6	0.0	0.0	41.4	100.0
10 - < 15	0.6	1.2	33.2	33.2	0.0	100.0
15 - < 20	0.0	1.2	18.3	51.5	0.0	100.0
20 - < 50	4.4	5.6	37.0	88.5	0.0	100.0
50 - < 75	5.1	10.7	7.6	96.1	0.0	100.0
75 - < 100%	20.0	30.7	2.4	98.5	0.0	100.0
100%	69.3	100.0	1.5	100.0	0.0	100.0
Total Hours Spent						
< 5 hours	1.3	1.3	6.2	6.2	86.2	86.2
5 - < 10	0.7	2.0	31.3	37.5	13.8	100.0
10 - < 15	1.2	3.2	26.8	64.3	0.0	100.0
15 - < 20	0.8	4.0	11.9	76.2	0.0	100.0
20 - < 40	24.8	28.8	19.5	95.7	0.0	100.0
40 - < 60	59.8	88.6	3.6	99.3	0.0	100.0
60 hours or more	11.5	100.0	0.7	100.0	0.0	100.0

*The level of ER/OPD involvement is defined by the physician's self-reported specialty and amount of time spent in the ER/OPD relative to total medical hours. EM specialists are those who self-reported this specialty and who spent any time in the ER/OPD. Other specialists with high ER/OPD activity spent 10 percent or more of their medical hours in the ER/OPD, while those with low ER/OPD activity spent less than 10 percent of their time in this setting. Of course, those who spent no time in the ER/OPD had no ER/OPD activity.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

activity. These two dimensions are presented in Tables 3-4 and 3-5, respectively. The two tables are related by the simple relationship:

$$\frac{\text{Hi ER SPEC}_i}{\text{Hi ER MDs}} = \left[\frac{\text{Hi ER SPEC}_i}{\text{SPEC}_i}\right] * \left[\frac{\text{SPEC}_i}{\text{MDs}}\right] * \left[\frac{\text{MDs}}{\text{Hi ER MDs}}\right]$$

Where Hi ER SPEC_i = estimated number of physicians in the i-th specialty with high ER/OPD participation; MDs = total number of physicians; and SPEC_i = number of physicians in the i-th specialty. For example, GPs comprise 4.3 percent of all physicians (including EM specialists) with high ER/OPD involvement. This percentage can be derived from the share of all GPs with high ER/OPD involvement (i.e., 18.7 percent, Table 3-5), weighted by the GPs' specialty share (5.9 percent) and the inverse of the high ER/OPD physician share (1/.259). *Ceteris paribus*, the more involved a specialty is in the ER/OPD, or the larger it is relative to other specialties, the greater will be its share of all high-involvement physicians.

Finally, a more accurate picture of who is actually treating patients in the ER/OPD is obtained from the distribution of total ER/OPD *visits* by specialty (see Table 3-4, column 3 and Figure 3-1). This distribution is obtained by multiplying each specialty's share by relative ER/OPD workloads.

EM specialists play a far larger role in the ER/OPD than their limited numbers would indicate. While only 4 percent of all physicians, they account for 15 percent of all high ER/OPD physicians -- clearly because practically all (95 percent) report high ER/OPD involvement (Table 3-5). Furthermore, because of their very heavy ER/OPD workloads, EM specialists account for over 40 percent of all patient-physician contacts in this setting (Table 3-4).

We see from Table 3-5 that general and orthopedic surgeons (besides EM specialists) are most likely to report high ER/OPD activity, 32 and 48 percent respectively. These specialties together account for 19 percent of all physicians reporting high ER/OPD activity (Table 3-4). Ophthalmology, urology, obstetrics/gynecology and other surgical specialties account for another 14 percent of all high ER/OPD activity physicians, confirming Thompson's (1983, p. 237) statement that "the surgeon is, indeed, the linchpin in the smooth-running trauma program". Although surgeons account for a third of all *physicians* reporting high ER/OPD activity, they have a far lower share of total ER/OPD *visits* (18 percent).

TABLE 3-4

SPECIALTY MIX WITHIN EACH LEVEL OF ER/OPD INVOLVEMENT*

Specialty	Percent of physicians High ER/OPD Activity	 Low ER/OPD Activity	Percent of Total ER/OPD Visits
All Physicians	100.0%	100.0%	100.0%
EM Specialists	15.1	--	43.4
All Other Specialties			
General practice	4.3	4.7	4.3
Family practice	12.1	13.3	9.1
Internal medicine	12.1	15.8	7.9
Cardiology	2.5	4.3	1.5
Pediatrics	6.9	8.1	4.8
Other medical	6.7	7.5	7.2
General surgery	9.1	9.9	4.9
Orthopedic surgery	9.7	5.9	4.6
Ophthalmology	2.1	3.8	0.8
Urology	2.0	4.0	1.3
Obstetrics/gynecology	5.7	11.4	4.0
Other surgical	4.1	8.0	2.4
Psychiatry	4.8	2.2	2.5
Other specialties	2.9	1.3	1.2

* Physicians with high ER/OPD activity spent 10 percent or more of their medical hours in the ER/OPD, while those with low ER/OPD activity spent less than 10 percent of their time in this setting.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

TABLE 3-5

LEVEL OF PHYSICIANS' INVOLVEMENT IN THE HOSPITAL EMERGENCY ROOM (ER) OR OUTPATIENT DEPARTMENT (OPD) WITHIN EACH SPECIALTY*

Specialty	Number of Physicians	Level of ER/OPD Involvement** High ER/OPD Activity	Low ER/OPD Activity	No ER/OPD Activity
EM specialists	9,154	94.7%	--	5.3%
All Other Specialties				
General practice	13,227	18.7	26.3	55.0
Family practice	29,089	23.9	34.1	42.0
Internal medicine	30,482	22.9	38.7	38.4
Cardiology	7,004	20.4	45.5	34.2
Pediatrics	16,739	23.6	36.0	40.4
Other medical	18,049	21.4	31.2	47.4
General surgery	16,378	32.1	45.0	23.0
Orthopedic surgery	11,666	47.9	37.4	14.6
Ophthalmology	9,843	12.1	29.2	58.8
Urology	5,703	20.3	51.9	27.8
Obstetrics/gynecology	19,273	17.2	44.0	38.8
Other surgical	13,086	18.1	45.6	36.3
Psychiatry	17,049	16.1	9.7	74.2
Other specialties	5,649	29.1	17.5	53.4

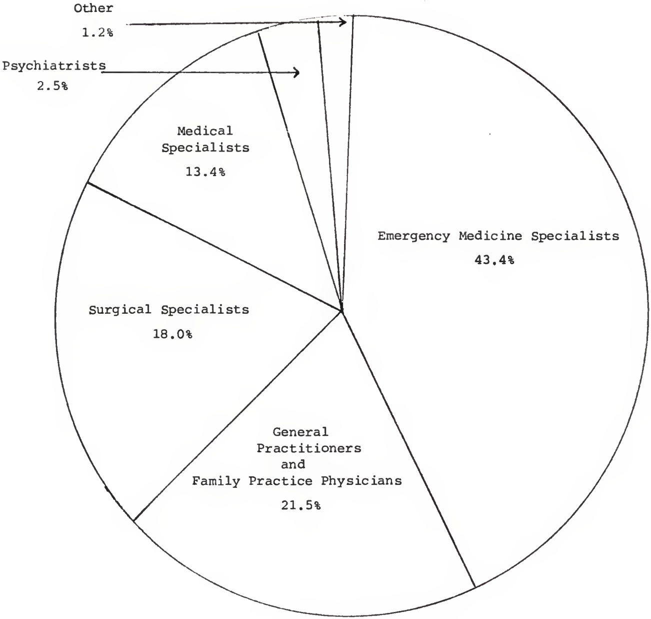
*Excludes 31,036 radiologists, anesthesiologists and pathologists (RAPs) and 1,660 physicians with unknown level of ER/OPD involvement.

**Physicians with high ER/OPD activity spent 10 percent or more of their medical hours in the ER/OPD, while those with low ER/OPD activity spent less than 10 percent of their time in this setting. Of course, those who spent no time in the ER/OPD had no ER/OPD activity.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

FIGURE 3-1 Specialty Shares of Total Visits to the ER/OPD *



* Refer to Appendix A for definition of specialties

Family practitioners (FPs) and internal medicine physicians are also an important part of the ER/OPD staff. They account for 24 percent of all physicians engaged in high ER/OPD activity and 17 percent of total ER/OPD visits (Table 3-4). Compared to FPs and internists, general practitioners (GPs) have a relatively minor role in the ER/OPD. Over half have no ER/OPD activity (Table 3-3) and GPs account for less than 5 percent of total ER/OPD visits (Table 3-4).

Finally, the hospital ER/OPD is an important treatment setting for persons with mental disorder. Regier, et al. (1978) estimated that 20 percent of all persons with mental disorders are treated in a hospital ER/OPD (although not necessarily by psychiatrists or other physicians). Yet, according to Table 3-5, only 26 percent of psychiatrists reported any ER/OPD involvement. As shown in Table 3-4, psychiatrists account for only 3 percent of ER/OPD visits and 5 percent of those physicians with high ER/OPD activity.

Table 3-6 presents the average amounts of time spent and number of patients seen in the ER/OPD by specialty (including those with no ER/OPD involvement). In addition, the percent of time spent in the ER/OPD relative to all medical activities is shown (column 2). EM specialists spend an average of 44 hours a week in the ER/OPD compared to 2 to 7 hours a week by all other physicians. General surgeons and orthopedic surgeons work 3 times more hours a week in the ER/OPD than do ophthalmologists, the least ER/OPD-oriented group. Non-EM specialists devote 4 to 11 percent of their week in the ER/OPD. The average number of patients seen in the ER/OPD by non-EM specialists ranges from just 5 for ophthalmologists to 20 patients per week for GPs and other medical specialists, still far less than the 132 patients a week seen by EM specialists. Chapter 4 discusses the "productivity," or patient visits per hour, in the ER/OPD by specialty.

3.3 Employment Setting

Table 3-7 shows differences in employment settings across levels of ER/OPD involvement. Emergency medicine specialists are very different from the other three groups in their hospital affiliation. Almost 38 percent are employed by a hospital compared to only 12 percent of those physicians reporting high ER/OPD activity. An explanation for the high proportion of

TABLE 3-6

MEASURES OF ER/OPD WORK EFFORT,* BY SPECIALTY

Specialty	Average Number of Hours Spent in ER/OPD	Percent of Hours Relative to Total Medical Hours	Average Number of Patients seen in ER/OPD
EM Specialists	43.7	92.3	131.7
All Other Specialties			
General practice	3.4	5.8	19.3
Family practice	4.7	8.0	14.4
Internal medicine	4.5	8.1	11.4
Cardiology	4.4	7.2	8.8
Pediatrics	4.2	8.3	13.1
Other medical	4.0	7.7	20.0
General surgery	5.9	10.5	10.2
Orthopedic surgery	6.5	10.9	12.4
Ophthalmology	1.5	3.6	5.1
Urology	3.8	7.1	8.6
Obstetrics/gynecology	3.1	5.3	8.8
Other surgical	3.8	7.0	7.6
Psychiatry	3.1	6.8	15.0
Other specialties	3.8	8.0	11.7

*Refers to physician's last full week of practice.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

TABLE 3-7

EMPLOYMENT STATUS OF PHYSICIANS, BY LEVEL OF ER/OPD INVOLVEMENT*

	Level of ER/OPD Involvement			
	EM Specialists	High ER/OPD Activity	Low ER/OPD Activity	No ER/OPD Activity
Employed by Hospital	37.6%	12.3%	2.7%	7.6%
Employed by Clinic/HMO	3.0	7.4	6.9	9.3
Employed by another physician or corporation	33.4	6.7	7.9	7.7
Self-employed**	25.5	70.8	80.3	72.7
Group practice	19.4	26.5	37.9	22.2
Solo practice	6.1	44.3	42.4	50.5
Changed status 1983-1984***	0.5	2.8	2.3	2.7

*The level of ER/OPD involvement is defined by the physician's self-reported specialty and amount of time spent in the ER/OPD relative to total medical hours. EM specialists are those who self-reported this specialty and who spent any time in the ER/OPD. Other specialists with high ER/OPD activity spent 10 percent or more of their medical hours in the ER/OPD, while those with low ER/OPD activity spent less than 10 percent of their time in this setting. Of course, those who spent no time in the ER/OPD had no ER/OPD activity.

**Physicians were asked to consider themselves self-employed if they were self-employed, a partner in a partnership, or a part-owner in a corporation.

***Includes physicians who changed from self-employed to employed, and vice versa.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

EM specialists employed by the hospital is that some of those physicians may be in a group practice on a hospital-based contract. Another third (33 percent) of EM specialists are employed by another physician or corporation as compared to only 7-8 percent of the other three groups. Some EM specialists in this category may be part of multi-hospital physician groups that staff ERs.

From 70 to 80 percent of the three non-EM specialist groups are self-employed, as compared to only 26 percent of EM specialists. Garnick *et al*. (1984) found in their survey that "more than 60 percent of the emergency services are staffed by physicians on contract on a group or individual basis". Most of the self-employed EM specialists are in group practice in contrast to most self-employed non-specialists who are in solo practice. Mayer and Cohen (1984) note that "emergency medicine as a specialty is, of necessity, a group practice."

In conclusion, emergency medicine specialists have a quite different employment status than most other physicians. EM specialists tend to be either hospital employees, employees of a multi-hospital group or corporation, or partners in a group practice. Chapter 5 provides a more detailed analysis of the physicians' hospital financial arrangements.

4.0 DESCRIPTIVE ANALYSIS OF PHYSICIANS INVOLVED IN THE ER/OPD

This chapter compares EM specialists with physicians who have high, low and no ER/OPD involvement. The discussion begins with biographical and specialty characteristics of the physicians and then continues with other aspects of their practice including location, hours and work effort.

4.1 Physician Biographical and Specialty Characteristics

EM specialists differ from the other three groups in terms of age, race, foreign medical graduate (FMG) status, and board-certification status. (See Table 4-1.) Emergency medicine specialists and those physicians with a large ER/OPD involvement are younger than their colleagues, perhaps because of the newness of this specialty and the high burn-out rate for physicians spending a great deal of time in the emergency room setting. The mean age of EM specialists is lower than other groups, 40 as compared to a range of 46-50 years for the other groups. Sixty-two percent of EM specialists are under 40 years old compared to 30 percent of all physicians. The percentage of physicians under age 40 decreases as the level of ER/OPD involvement decreases. Only 23 percent of those physicians reporting no ER/OPD activity at all are under 40 years old. Twenty-four percent of this group are over sixty-years-old compared to 4 percent of EM specialists.

EM specialists are also different from the other groups in their racial mix. The white-nonwhite ratio for EM specialists is 11 to 1, which is twice that of other groups. Part of this difference is explained by FMG status. Eighty-eight percent of EM specialists are U.S. medical graduates as compared to only 78 percent of all physicians.

EM specialists, on the other hand, are much less likely to be board certified in any specialty (38 percent) compared to the other three groups (62-73 percent). This is partly because emergency medicine is a very new specialty whose board certification exam was first given in 1980. In addition, EM specialists are younger and have had less opportunity to become board-certified. In order to become board eligible in emergency medicine a physician must have practiced emergency medicine for a minimum of five years or have completed a three year residency program (ABEM, 1985).

TABLE 4-1

BIOGRAPHICAL AND SPECIALTY CHARACTERISTICS OF PHYSICIANS ACROSS LEVELS OF ER/OPD INVOLVEMENT

	Level of ER/OPD Involvement				
Characteristics	All Physicians	EM Specialists	High ER/OPD Activity	Low ER/OPD Activity	No ER/OPD Activity
	(n=222,440)	(n=8,666)	(n=48,901)	(n=74,692)	(n=90,181)
Age					
Under 35 years	10.5%	26.3%	12.0%	9.9%	8.6%
35-39 years	19.8	35.3	24.8	20.9	14.7
40-49 years	29.7	24.0	29.9	30.9	29.3
50-59 years	21.8	10.7	18.1	23.6	23.4
60-64 years	9.0	3.3	8.2	8.2	10.6
65 years and over	9.2	0.5	7.1	6.5	13.4
Mean Age	47.7	40.2	46.1	47.2	49.9
Sex					
Male	90.9%	90.2%	90.9%	95.1%	87.4%
Female	9.1	9.8	9.1	4.9	12.6
Race					
White	83.6%	91.7%	79.2%	86.2%	83.0%
Non-White	16.4	8.3	20.8	13.8	17.0
FMG Status					
U.S. Medical Graduate	78.1%	88.0%	72.8%	81.9%	77.0%
Foreign Medical Graduate	21.9	12.0	27.2	18.1	23.0
Board Certification Status					
Board Certified (any specialty)	65.6%	38.0%	66.1%	72.7%	62.1%
Not Board Certified	34.4	62.0	33.9	27.3	37.9

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

4.2 Physician Location

Table 4-2 presents the physician's location across levels of involvement in the ER/OPD. There are no striking differences in regional distribution among the four groups. Twenty-one percent of emergency medicine specialists are in the Northeast, 32 percent in the South, 24 percent in the North Central region, and 23 percent in the West. Physicians reporting high ER/OPD activity are similar; 26 percent in the Northeast, 32 percent in the South, 23 percent in the North Central, and 19 percent in the West. Physicians with low or no ER/OPD activity have nearly the same regional distribution as the other two groups.

Eight out of ten physicians are located in urban areas. There are minor urban/rural differences among the four groups. Those physicians who have some ER/OPD activity (including EM specialists) are slightly more likely to be rural than physicians reporting no ER/OPD activity. Only 12 percent of physicians in the no ER/OPD activity group are located in a rural area as compared to 17-22 percent in the other groups.

An alternative approach was to look at differences in location of the physicians' primary hospital. The hospitals' regional mix is nearly identical to that of the physician. We also found the same slight urban/rural differences for the physician's primary hospital as we had for physicians across the four groups.

4.3 Physician Hours and Workload

Table 4-3 compares emergency medicine specialists' hours and workload with other physicians spending some time in the ER/OPD. (Physicians with no ER/OPD activity are shown in the table but are not included in the discussion.) As shown in the previous chapter, emergency medicine specialists have a larger total workload (patient visits per week) than those physicians reporting high ER/OPD activity. They see an average of 138 patients a week as compared to 121 visits for the high-activity group. Ninety-six percent (132 visits) of the emergency medicine specialists' total visits are in the ER/OPD, while non-EM physicians reporting high ER/OPD activity see only 18 percent (22 visits) of their patients in the ER/OPD. Low ER/OPD activity physicians have just 4 percent (6 visits) of their visits in the ER/OPD setting. The non-EM specialists see most of their patients in the office or hospital inpatient setting.

TABLE 4-2

PHYSICIAN LOCATION ACROSS LEVELS OF ER/OPD INVOLVEMENT

	Level of ER/OPD Involvement				
Physician Location	All Physicians	EM Specialists	High ER/OPD Activity	Low ER/OPD Activity	No ER/OPD Activity
Region					
North East	24.2%	21.3%	26.3%	22.0%	25.2%
South	31.0	32.2	31.7	35.0	27.2
North Central	22.3	23.5	22.6	22.6	21.7
West	22.5	22.9	19.4	20.4	25.9
Urban/Rural Location					
Urban	82.7	82.2	78.0	79.8	87.7
Rural	17.3	17.8	22.0	20.2	12.3

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

TABLE 4-3

PHYSICIAN HOURS AND WORKLOAD

Hours and Work Effort	Level of ER/OPD Involvement			
	EM Specialists	High ER/OPD Activity	Low ER/OPD Activity	No ER/OPD Activity
Average number of patients per week (all settings)	137.7	120.6	134.6	101.9
Average number of visits to:				
Emergency room/outpatient clinic	131.7	22.3	5.6	0.0
Physician's office	5.0	65.6	83.1	77.4
Hospital inpatients	1.4	29.5	40.3	20.5
Other setting	0.3	2.0	2.4	2.1
Average number of hours worked per week*	50.5	54.7	55.8	46.0
Average number of visits per hour worked in all settings	2.8	2.3	2.4	2.2
Average number of visits per hour worked in ER/OPD	3.1	1.6	2.6	0.0
Average number of visits (all setting) by**:				
Medicare patients	37.0	37.0	39.0	27.9
Medicaid patients	17.2	12.1	12.8	9.9
Other patients	83.9	72.4	82.6	62.0

*Includes only hours spent at medical activities.

**Includes self-employed physicians only.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

In spite of more patient contacts, emergency medicine specialists report spending slightly fewer hours a week in medical activities than those with high or low ER/OPD activity (51 hours versus 55-56). More visits over fewer hours results in EM specialists having somewhat more patient visits an hour: an average of 2.8, as compared to 2.3-2.4 in the high and low ER/OPD activity groups. Emergency medicine specialists have an even greater number of visits per hour worked in the ER/OPD. They see an average of 1.5 more patients per hour in the ER/OPD setting than physicians in the high ER/OPD activity group (3.1 as compared to 1.6). The low ER/OPD activity group have 2.6 patient visits an hour.

There are several possible explanations to why EM specialists have more ER/OPD visits per hour. Those physicians who concentrate their time in the ER/OPD setting can schedule their time more intensively than a physician who devotes only a few hours a week to the ER/OPD. Thompson (1983) discusses the role of the emergency medicine specialist as both "the manager of the emergency department and as the clinician most apt to first see the injured patient." Emergency medicine specialists may also have very short encounters with patients, triaging them to other specialists. By contrast, non-EM physicians with high ER/OPD activity may take care of the more serious cases (e.g., surgical) and thus spend more time with each patient.

Table 4-3 also presents the number of visits made to self-employed physicians in each group by Medicaid patients. EM specialists see a higher volume of Medicaid patients a week, 17 as compared to about 12-13 for the high and low ER/OPD groups. Over 12 percent of EM specialists' patient contacts are with Medicaid patients as compared to about ten percent of the other two groups' visits.

Table 4-4 presents the average number of visits per hour worked in the ER/OPD setting by specialty. The next most "productive" specialty besides EM specialists (in terms of raw visits per hour) is the "other medical" group, with 2.6 visits per hour in the ER/OPD. GPs and urologists are next, with 2.5 patients per ER/OPD hour. Orthopedic and general surgeons have few visits per hour, supporting the premise that they are seeing the more difficult, surgical patients. As mentioned in Chapter 3, these two specialties account for 19 percent of all high ER/OPD activity physicians.

TABLE 4-4

AVERAGE VISITS PER HOUR WORKED IN ER/OPD BY SPECIALTY

Specialty	Visits Per Hour Worked in ER/OPD
Emergency medicine	3.0
Other medical	2.6
General practice	2.5
Urology	2.5
Other surgical	2.4
Obstetrics/gynecology	2.3
Family practice	2.2
Cardiology	2.1
Pediatrics	2.0
Orthopedic surgery	1.9
Internal medicine	1.8
General surgery	1.8
Ophthalmology	1.7
Psychiatry	1.6
Other specialties	1.5

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

5.0 HOSPITAL FINANCIAL ARRANGEMENTS, PHYSICIAN INCOME, AND MALPRACTICE INSURANCE COSTS

5.1 Introduction

This chapter presents data on physicians' practice costs, income, and hospital financial arrangements, according to the level of ER/OPD involvement. In addition, the chapter presents data on selected hospital characteristics for the hospital with which the physician was primarily affiliated. Specifically, we examine hospital ownership, bed size, and teaching activity.

The data on hospital involvement and hospital characteristics are limited in one important respect. These data apply only to the hospital with which the physician is primarily affiliated. In the case of EM specialists, the primary hospital is most likely the hospital where ER services are provided. For those with high or low ER/OPD activity, this is not necessarily the case, particularly for those who are moonlighting at another hospital.

5.2 Hospital Appointment Level and Characteristics of Primary Hospital

Emergency medicine specialists were less likely than other physicians to be active staff members with full privileges. More than 90 percent of those with high or low ER/OPD activity had such an appointment, compared to 78 percent of the EM specialists (Table 5-1). A slightly higher proportion of EM specialists (versus those with high or low ER/OPD activity) had limited privileges (7 percent versus 2-3 percent), were granted courtesy or consulting privileges only (9 percent versus 1-3 percent), or had other privileges (7 percent versus 1-2 percent). Other privileges include associate staff appointment; provisional, probationary, or temporary appointment; and teaching or clinical appointment in medical school.

Table 5-2 shows the characteristics of hospitals with which physicians are primarily affiliated, according to the physicians' level of ER/OPD involvement. EM specialists are slightly more likely to be affiliated with public (e.g., city, county) hospitals. Twenty-one percent listed a public hospital as their primary affiliation, while physicians with high or low ER/OPD activity were affiliated with public hospitals about 16-18 percent of the time.

TABLE 5-1

HOSPITAL APPOINTMENT LEVEL,* BY LEVEL OF ER/OPD INVOLVEMENT

	Level of ER/OPD Involvement			
	EM Specialists	High ER/OPD Activity	Low ER/OPD Activity	No ER/OPD Activity
Active staff, full privileges	78.0%	92.0%	95.8%	86.5%
Active staff, limited privileges	6.6	2.5	1.8	3.7
Courtesy/consulting	8.5	3.2	1.2	6.6
Other**	6.9	2.4	1.2	3.2

*Represents hospital appointment level at hospital with which physician is primarily affiliated.

**Includes associate staff appointment; provisional, probationary, or temporary appointment; and teaching or clinical appointment in a medical school.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

TABLE 5-2

CHARACTERISTICS OF PRIMARY HOSPITAL, BY PHYSICIAN'S LEVEL OF ER/OPD INVOLVEMENT

Hospital Characteristics*	Level of ER/OPD Involvement EM Specialists	 High ER/OPD Activity	 Low ER/OPD Activity	 No ER/OPD Activity
Ownership				
Public	21.1%	18.0%	15.9%	12.4%
Private, not-for-profit	71.2	73.9	75.0	78.4
Investor-owned	7.7	8.1	8.8	9.1
Bed size				
Less than 50 beds	2.1%	5.6%	2.2%	2.1%
50-199 beds	33.8	24.9	25.7	23.8
200-399 beds	42.3	37.9	35.9	32.3
400 beds or more	21.8	31.6	36.2	41.8
Average Number of beds	300	350	366	399
Percent with teaching activity	35.5%	43.5%	42.2%	51.5%

*Includes physicians who reported the name and address of hospital with which they were primarily affiliated. ER/OPD activity might be conducted at another hospital.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCES: Physicians' Practice Costs and Income Survey, 1984-85; 1982 AHA Survey of Hospitals.

EM specialists appear to be affiliated with smaller hospitals, averaging 300 beds, versus 350-400 beds in primary hospitals of other physicians. Only 20 percent of EM specialists were associated with hospitals having 400 beds or more compared to about a third of those with high or low ER/OPD activity. Instead, one third of the EM specialists were associated with hospitals having 50-199 beds (versus one-fourth in the other three groups).

EM specialists are considerably less likely than the others to affiliate with teaching hospitals. About one-third of the EM specialists were in hospitals with teaching activity, whereas 42-44 percent of those with high or low ER/OPD activity and 52 percent of those with no ER/OPD activity were primarily affiliated with a teaching hospital. Teaching hospitals may rely on residents and medical staff to rotate through the ER/OPD as part of the teaching program.

5.3 Hospital Financial Arrangements

5.3.1 Type of Arrangement

We know from Chapter 3 that most non-EM specialists are office-based, in either solo or group practice. Such physicians generally bill on a fee-for-service basis in their main practice and have admitting privileges to a hospital rather than a hospital financial arrangement. In fact, this is borne out by Table 5-3, which shows that 80-90 percent of non-EM specialists have admitting privileges only (see line 1).

In contrast to other physicians, EM specialists are far more likely to have a hospital financial arrangement. Compared to those with high ER/OPD activity, EM specialists are more than twice as likely to be on straight salary (30 percent versus 12 percent), paid on a fee-for-service basis (25 percent versus 4 percent), or have some other arrangement (27 percent versus 5 percent). These other arrangements include percent of gross department billings (6 percent), percent of net department billings (2 percent), hourly wage (6 percent), salarly plus incentives (5 percent), and other arrangements (8 percent).

TABLE 5-3

HOSPITAL FINANCIAL ARRANGEMENTS* OF PHYSICIANS, BY LEVEL OF ER/OPD INVOLVEMENT

	Level of ER/OPD Involvement			
	EM Specialists	High ER/OPD Activity	Low ER/OPD Activity	No ER/OPD Activity
Type of financial arrangement				
Admitting privileges only	19.4%	79.3%	91.4%	88.6%
Straight salary	29.6	12.2	3.2	6.9
Fee-for-service	24.5	3.6	3.2	1.7
Other	26.5	5.0	2.2	2.7
Salary plus incentives	5.1			
Percent of gross billings	5.9			
Percent of net billings	2.2			
Hourly rate	5.7			
Other	7.6			
Features of financial arrangement**				
Minimum guaranteed income	36.9	46.6	22.4	31.9
Fee-for-service	29.5	18.9	4.7	9.4
Other arrangement	44.2	67.6	48.0	45.5
Lease space	5.3	26.7	11.1	19.3
Fee-for-service	5.4	20.6	7.3	12.3
Other arrangement	5.3	30.3	16.8	23.8
Lease equipment	2.6	7.8	3.6	4.7
Fee-for-service	5.4	0.0	0.0	0.0
Other arrangement	0.0	12.3	8.7	7.6
Free services provided by hospital***				
Office space	39.0%	5.0%	2.7%	2.2%
Equipment	48.8	8.0	3.7	3.8
Supplies	45.1	5.0	3.1	3.2
Aides/technicians	53.0	8.2	3.5	3.7

*Refers to the hospital with which the physician is primarily affiliated.

**For physicians with a hospital financial arrangement, other than straight salary.

***For self-employed physicians with a hospital affiliation.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

5.3.2 Features of Financial Arrangement

Physicians with a hospital financial arrangement (other than those on straight salary) were asked about selected aspects of their arrangement: whether they were guaranteed a minimum income and whether there was a lease arrangement for space or equipment (other than operating room equipment). In each case, physicians with high ER/OPD activity were most likely to report such arrangements (Table 5-3, column 2). For example, 47 percent of those with high ER/OPD activity were guaranteed a minimum income if they had a contract with the hospital, compared to 37 percent of EM specialists. Lease arrangements for space were even relatively more common for those with high, low, or no ER/OPD activity (27, 11, and 19 percent, respectively) than for EM specialists (5 percent). Lease arrangements for equipment were rare regardless of the level of ER/OPD involvement, with only 3-8 percent having such a benefit.

When disaggregated by type of hospital financial arrangement, we see that high and low ER/OPD activity physicians paid on a fee-for-service basis are less likely than those with other arrangements to have a lease arrangement for space or equipment or to receive a minimum guaranteed income. Physicians with other arrangements include those receiving a salary plus incentives or a fixed percent of net or gross department billings. These other arrangements frequently assure a minimum income but less often involve a lease arrangement for space or equipment.

Self-employed physicians were also asked about free services that were provided by hospitals. Table 5-3 (bottom) shows that EM specialists were much more likely to receive free office space (40 percent), equipment (49 percent), supplies (45 percent), and use of aides/technicians (53 percent) compared to those with high, low, or no ER/OPD activity (no more than 8 percent received these free services).

It would appear from this table that physicians with high ER/OPD activity (primarily those with "other" financial arrangements) are most likely to be offered lease arrangements for space and equipment, while these goods are free to EM specialists as part of their financial package.

5.4 Hospital and Clinic Contract Arrangements

Because many non-EM specialists may be engaged in ER/OPD activity at a hospital other than the primary hospital, we were interested in examining hospital and clinic contracts more generally. Table 5-4 shows the percent of physicians with one or more hospital/clinic contracts, and for those with at least one arrangement, the extent of income derived from these contracts. We clearly see from this table that the hospital is the mainstay for the EM specialists' practice. Eight-in-ten EM specialists have a contractual arrangement with a hospital or clinic compared to four-in-ten physicians with high ER/OPD activity, and three-in-ten with low or no ER/OPD activity. Physicians reporting ER/OPD activity but who have no contractual arrangement with a hospital may rotate through the ER, see private patients in the ER or OPD, or contract with a private corporation rather than the hospital.

As would be expected, EM specialists are more reliant on income from hospital or clinic contracts compared to the other three groups. About 83 percent of the EM specialists received one-half or more of their medical practice income from the hospital. About 45 percent of physicians with high ER/OPD activity and 27 percent of physicians with low ER/OPD activity received half or more of their income from hospital/clinic contract arrangements. As would be expected, nearly one-third of those with low ER/OPD activity derived less than 10 percent of their medical practice income from such contracts.*

5.5 Net Physician Income

Physicians were then asked about their net income for 1983. Net physician income includes income for the individual physician from all medical practices after practice deductions but before taxes. The survey obtained categorical net income data which were converted to continuous data by assigning the midpoint of the category as the value. For physicians reporting net incomes of $200,000 or more, an open-ended question solicited the exact dollar amount. In cases where the physician was unable (or unwilling) to report the exact amount above $200,000, a value was imputed based on the mean net income for all physicians (n = 176) reporting net

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*A sizable proportion of physicians with high or low ER/OPD activity who had a hospital/clinic contract arrangement reportedly received no income from such an arrangement (20-23 percent). These physicians may donate time to the ER/OPD, or perhaps they reported such income as fee-for-service billings (rather than as income from hospital/clinic contracts).

TABLE 5-4

HOSPITAL AND CLINIC CONTRACT ARRANGEMENTS, BY LEVEL OF ER/OPD INVOLVEMENT

	Level of ER/OPD Involvement			
	EM Specialists	High ER/OPD Activity	Low ER/OPD Activity	No ER/OPD Activity
Percent with one or more hospital/clinic contract arrangements*	84.5%	38.8%	26.0%	27.7%
Percent of medical practice income from hospital/ clinic contracts**				
None (0%)	9.5%	20.0%	23.0%	24.6%
1-9 percent	1.4	11.7	29.8	12.6
10-49 percent	6.3	23.8	20.7	23.6
50 percent or more	82.8	44.5	26.5	39.2

*Includes physicians with oral or written contract arrangements including salary and fee-for-service. Does not include physicians who only see private patients.

**Includes physicians with one or more hospital/clinic contract arrangements only.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

income of $200,000 or more. The replacement value for the 12 physicians with missing data was $290,000. (Outlier values might upwardly bias the mean, although there does not appear to be any systematic bias to this imputed value.)

The survey also obtained information on gross practice income in 1983. However, due to the high level of nonresponse, this information is not presented. As an example, 77 EM specialists reported valid data on gross practice income while 89 had missing data.

Mean net physician income was about $10,000-$15,000 lower for EM specialists ($87,000) than for those with high or low ER/OPD activity ($98,000 and $105,000, respectively), as shown in Table 5-5.* The distribution of net income (also in Table 5-5) reveals less variation among EM specialists than the other three groups, with more than half reporting net incomes in the $80,000 to $100,000 range. The other three groups are more evenly spread across the income levels, especially at the extremes. In part, this is because EM specialists are more homogeneous than the other groups in terms of the types of medical tasks performed, the specialty mix (by definition), and physician age. What these income data suggest is that emergency medicine provides, on one hand, less financial risk, together with less opportunity for financial gain.

5.6 Malpractice Insurance Costs

A major component of practice costs for many physicians is malpractice insurance. Table 5-6 shows that own malpractice payments for EM specialists averaged $7,132. (The mean is based on physicians with own malpractice payments greater than zero.) This amount is about $800 lower than the average for physicians with high ER/OPD activity ($7,927) and about $1,000 lower than that for physicians with low ER/OPD activity ($8,155).

Payment of malpractice premiums for EM specialists is more likely to be paid, in whole or in part, by the hospital through a contract. (Thus, total malpractice payments for EM specialists are significantly understated because of the hospital's contribution.) Only 52 percent of EM specialists, for example, paid the entire cost of malpractice insurance compared

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*These means provide only rough approximations because they are estimated from categorical data that were transformed to continuous data, as described above.

TABLE 5-5

NET PHYSICIAN INCOME IN 1983, BY LEVEL OF ER/OPD INVOLVEMENT

	Level of ER/OPD Involvement			
Net physician income	EM Specialists	High ER/OPD Activity	Low ER/OPD Activity	No ER/OPD Activity
Mean	$87,320	$98,302	$104,662	$89,114
Median	85,000	85,000	95,000	85,000
Less than $60,000	14.5%	16.3%	13.8%	23.2%
$60,000-$79,999	10.6	20.8	16.4	23.0
$80,000-$99,999	53.0	23.8	24.6	24.7
$100,000-$149,999	15.5	27.0	28.4	18.9
$150,000 or more	6.4	12.1	16.8	10.2

*The categorical data for net income were converted to continuous data by assigning the midpoint of the category as the value. For physicians reporting net income over $200,000 an exact dollar amount was requested. Where this dollar amount was missing the mean ($290,000) was used as a replacement value.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

TABLE 5-6

MALPRACTICE INSURANCE PAYMENTS, BY LEVEL OF ER/OPD INVOLVEMENT

	Level of ER/OPD Involvement			
	EM Specialists	High ER/OPD Activity	Low ER/OPD Activity	No ER/OPD Activity
Average "own" malpractice payment*	$7,132	$7,927	$8,155	$6,088
Source of Payment				
Practice pays entire amount	53.6%	76.8%	83.6%	79.1%
Hospital pays entire amount	28.1	8.1	2.0	5.1
Hospital pays premium	20.2	6.1	1.1	3.0
Hospital self-insured	7.9	2.0	0.9	2.1
Physician/practice and hospital "share" payment	15.1	12.9	12.5	13.1
Neither physician nor hospital pay	3.2	2.3	1.9	2.7

*Average malpractice payments are calculated for physicians with payments greater than zero.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

to 77-84 percent in the other groups. Instead, hospitals were more likely to pay the entire amount for EM specialists (28 percent) than for other physicians (2-8 percent). In most cases, the hospital paid the malpractice premium outright, although 8 percent of the EM specialists indicated that the hospital was self-insured. A shared payment arrangement between the practice and the hospital was reported by 12-14 percent of physicians. Finally, about 2-3 percent of all physicians reported that neither the hospital nor the practice paid any malpractice insurance, presumably leaving this group uninsured against malpractice liability.

6.0 IMPACT OF MEDICARE POLICY CHANGES

Due to spiralling costs under the Medicare program, Congress has sought ways to reduce expenditures for both Part A and Part B services. Under the Prospective Payment System (PPS), implemented beginning October 1, 1983, hospitals are paid a pre-set price per inpatient admission based on the diagnosis-related group (DRG) into which the case is classified. The Physician Participation Agreement (PPA) program, which went into effect on October 1, 1984, seeks to increase the volume of physicians' services accepted on assignment (where the physician bills the government directly). A major inducement for signing the Medicare PPA was preferential treatment at the end of a fee freeze: those who signed the PPA would have their charge profiles updated, while those who did not sign would not receive updated charge profiles.

The 1984-85 Physicians' Practice Costs and Income Survey (PPCIS) asked physicians about the short-run impact of PPS on their inpatient activity as well as whether they signed the Medicare PPA. This chapter examines the impact on physicians of these two Medicare policy changes, according to the physicians' level of ER/OPD involvement.

6.1 Short-Run Impact of Medicare's Prospective Payment System

The PPCIS asked respondents whether physicians in their hospital were encouraged to make certain changes in inpatient activity during the past year, and if so, whether the changes were due to Medicare's PPS.* Table 6-1 shows physicians' perceptions of the short-run impact of PPS, according to their levels of ER/OPD involvement. This table shows the percent of all physicians that reported a change and the percent of all physicians attributing the change to PPS. The ratio of the two response rates indicates the percent of physicians reporting a change who cited PPS as a reason. For example, 79 percent of EM specialists were urged to discharge patients sooner; 72 percent of all EM specialists indicated that they were

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*See also Rosenbach and Cromwell, Physicians' Perceptions About the Short-Run Impact of Medicare's Prospective Payment System. Chestnut Hill, Mass: Health Economics Research, Inc., November 1985.

TABLE 6-1

SHORT-RUN IMPACT OF MEDICARE'S PROSPECTIVE PAYMENT SYSTEM (PPS), BY LEVEL OF ER/OPD INVOLVEMENT

PPS Impact*	Level of ER/OPD Involvement EM Specialists	 High ER/OPD Activity	 Low ER/OPD Activity	 No ER/OPD Activity
Discharge patients sooner				
Percent reporting impact	79.4%	77.3%	83.2%	72.9%
Percent citing PPS as reason	72.0	63.1	72.2	55.9
Reduce lab tests or x-rays				
Percent reporting impact	50.2	45.5	48.1	41.6
Percent citing PPS as reason	43.4	38.3	42.3	33.9
Increase admissions				
Percent reporting impact	21.6	20.5	21.0	22.3
Percent citing PPS as reason	20.7	15.5	18.5	16.2
Admit fewer Medicare patients				
Percent reporting impact	20.2	12.7	14.3	11.1
Percent citing PPS as reason	19.4	11.2	13.2	9.4
Admit more patients with certain diagnoses				
Percent reporting impact	7.4	5.3	4.1	4.2
Percent citing PPS as reason	7.4	3.9	3.6	3.5
Admit more Medicare patients				
Percent reporting impact	2.4	4.0	3.2	3.2
Percent citing PPS as reason	2.4	3.1	3.1	2.4

*Specifically, physicians were asked "Since this time last year, have the physicians in your hospital been encouraged to..." Physicians reporting one or more changes in inpatient activity were asked, "Was Medicare's new DRG Prospective Payment System a reason for any of the changes you mentioned?" (emphasis added). Because of the questionnaire wording, the impact of PPS on physicians' inpatient activity may be overstated.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

encouraged to discharge sooner as a result of PPS. Thus, about 91 percent (.72/.794) of the EM specialists who were encouraged to discharge sooner cited PPS as a reason.

We see from Table 6-1 a general tendency for physicians to report perceived changes in inpatient activity regardless of their level of ER/OPD involvement. The two most widely reported impacts -- earlier discharges and fewer ancillaries -- should reduce the per-case cost of a hospital stay. About 77-79 percent of EM specialists and high-ER/OPD-activity physicians were encouraged to discharge sooner. About 45-50 percent of physicians in these two groups were encouraged to reduce lab tests or x-rays. Far fewer physicians (21-22 percent) reported pressures to increase admissions, a mechanism for generating revenue in the face of declining occupancy rates.

These data suggest that physicians as a group are being encouraged to adjust their behavior due to pressures from PPS and other cost control mechanisms. While it may seem surprising, for example, that EM specialists were as likely as other physicians to report pressures to discharge sooner, this reflects the tendency of hospital administrators to inform _all_ physicians' about the programs' incentives.

While "across-the-board" effects were noted in the percent of physicians reporting changes in inpatient activity, the _perceived impact of PPS_ is consistently higher for EM specialists than for physicians with high ER/OPD activity. For example, EM specialists were more likely to report pressures in their hospitals to discharge sooner due to PPS (72 versus 63 percent); to reduce ancillaries (43 versus 38 percent); and to increase admissions (21 versus 16 percent). Additionally, a higher percent of EM specialists who reported an impact cited PPS as a reason, compared to those with high ER/OPD activity. As already discussed, 91 percent of EM specialists who reported encouragement to discharge sooner cited PPS as the reason, versus 82 percent of high ER/OPD activity physicians. About 96 percent of EM specialists versus 76 percent of those with high ER/OPD activity who were urged to increase admissions cited PPS as the reason.

Additional evidence is provided in Table 6-1 that EM specialists may be encouraged to "adjust" a hospital's caseload by selectively admitting or not admitting patients. EM specialists were more likely to report encouragement to admit _fewer_ Medicare patients, 20 percent, versus 11-14 percent of those with high, low, or no ER/OPD activity. (In almost all cases, PPS was cited as a reason for the change.) EM specialists were also slightly more likely to be encouraged to admit more patients with certain diagnoses (7 percent versus 4-5 percent).

Although the percentages are relatively low, these results suggest that hospital administrators may be using EM specialists to limit or encourage certain types of admissions. Emergency medicine specialists are in a unique position to control inpatient admissions. For elderly Medicare beneficiaries, the emergency room may be a major entry point to the hospital. By restricting admissions through the ER, hospitals may reduce their financial risk under PPS. On the other hand, if hospitals can "profit" from certain types of cases, EM specialists may implicitly or explicitly be encouraged to admit selected cases. Unfortunately, the survey was not able to probe more on how EM specialists were responding to this mandate, if at all.

6.2 Analysis of Medicare's Physician Participation Agreement Program

As shown in Table 6-2, the percent of physicians signing the Medicare PPA varied widely depending on the level of ER/OPD involvement. Over half (52 percent) of the self-employed EM specialists signed the Medicare PPA, compared to 36 percent of those with high ER/OPD activity, 30 percent with low ER/OPD activity, and 34 percent with no ER/OPD activity. (Overall, 33 percent of self-employed physicians with any Medicare patients signed the Medicare PPA.)

Sharp differences are also noted when the participation rates are disaggregated by urban and rural location. EM specialists in rural areas were twice as likely to sign the Medicare PPA compared to rural physicians with high, low, or no ER/OPD activity. Nearly two-thirds (65 percent) of rural EM specialists signed the Medicare PPA. Among physicians in urban areas, EM specialists again were more likely to sign the PPA -- 1-in-2 did so -- than the other three groups, with 1-in-3 signing the PPA.

It should be kept in mind that the Medicare PPA questions were asked only of self-employed physicians with any Medicare patients. All physicians employed by hospitals, corporations, clinics, or HMOs are excluded. The

TABLE 6-2

PARTICIPATION RATES IN MEDICARE'S PPA, BY LEVEL OF ER/OPD INVOLVEMENT AND URBAN/RURAL LOCATION

Level of ER/OPD Involvement	Participation Rate* Total	 Urban	 Rural
All physicians	33.2%	34.1%	29.6%
EM Specialists	52.5	48.6	64.8
High ER/OPD Activity	36.2	37.7	32.3
Low ER/OPD Activity	30.4	31.8	25.5
No ER/OPD Activity	33.5	34.0	30.3

*Percent of self-employed physicians with any Medicare patients signing the Medicare PPA. Specifically, physicians were asked "Have you signed a Medicare participation agreement to accept all of your Medicare patients on assignment?"

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

rationale was to limit the sample to physicians who were independent decision-makers; most employed physicians would be subject to decisions made by their employers. This limitation particularly affects EM specialists since only one-fourth are self-employed (compared to about three-fourths of other physicians).

The inverse relationship between participation rates and level of ER/OPD involvement may, in part, be a function of financial characteristics of the patient population served by the physicians. Table 6-3 displays insurance coverage, supplemental coverage of Medicare beneficiaries (Medigap and Medicaid coverage), and low-income status by level of ER/OPD involvement. On average, a far higher percent of the EM specialists' patient population is uninsured (17 percent versus 9-10 percent), has Medicaid coverage (12 percent versus 9-10 percent), or was classified by the physician as low-income (29 percent versus 22 percent).

All four groups have roughly equivalent Medicare caseloads, averaging 26-30 percent. However, EM specialists treat a less-well-insured Medicare population as indicated by a much lower percentage of Medicare patients with supplemental, or Medi-gap, coverage (34 percent versus 53-55 percent). These findings strongly suggest that EM specialists may be signing the Medicare PPA in response to economic incentives with fewer opportunities for balance billing.

Additional insight into why physicians signed or did not sign the Medicare PPA is provided in Table 6-4. The PPCIS asked participants and non-participants why they signed or did not sign; the verbatim responses were recoded into designated categories, as described elsewhere.* We see from Table 6-4 that participants' reasons for signing differed according to their level of ER/OPD involvement. For example, 1-in-3 EM specialists reported that it was a workplace decision (e.g., the group decided, or the contracting hospital may have insisted), while less than 1-in-20 physicians with high, low, or no ER/OPD involvement reported this reason. These data suggest that even "self-employed" EM specialists differ from other physicians in the role of external pressures explaining, in part, their high participation rates.

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*See Rosenbach, Hurdle, and Cromwell, An Analysis of Medicare's Physician Participation Agreement Program, Chestnut Hill, Mass.: Health Economics Research, Inc., October 1985.

TABLE 6-3

FINANCIAL CHARACTERISTICS OF PATIENT POPULATION, BY LEVEL OF PHYSICIAN ER/OPD INVOLVEMENT*

Financial Characteristics of Patient Population	Level of ER/OPD Involvement			
	EM Specialists	High ER/OPD Activity	Low ER/OPD Activity	No ER/OPD Activity
Average percent of patients with:				
No insurance coverage	17.0%	10.1%	9.3%	10.5%
Medicare Part B as primary payer	27.1	29.9	28.9	26.4
Medicaid as primary payer	12.3	10.3	8.7	8.7
Blue Shield as primary payer	19.0	21.0	22.7	22.8
Other private insurance plan as primary payer	26.0	29.2	30.2	29.8
Average percent of Medicare patients with:				
"Medi-gap" supplementary coverage	34.2	53.0	55.2	54.7
Joint Medicaid coverage	13.7	13.1	11.6	11.8
Average percent of patients Classified as poor	28.9	22.4	21.6	21.8

*Includes patients of physicians who are self-employed.

NOTE: The figures in this table have been weighted to provide national estimates.

SOURCE: Physicians' Practice Costs and Income Survey, 1984-85.

TABLE 6-4

PHYSICIANS' REASONS FOR SIGNING OR NOT SIGNING THE MEDICARE PHYSICIAN PARTICIPATION AGREEMENT, BY LEVEL OF ER/OPD INVOLVEMENT*

	Level of ER/OPD Involvement			
	EM Specialists**	High ER/OPD Activity	Low ER/OPD Activity	No ER/OPD Activity
PARTICIPANTS	100.0%	100.0%	100.0%	100.0%
Raise Medicare charge profile	0.0	7.7	9.9	7.5
Maintain/increase patient load	8.1	17.4	14.7	14.5
Reduce administrative costs	20.8	10.2	9.0	11.3
Workplace decision	36.3	4.0	2.5	3.2
Peer opinion/group pressure	0.0	3.9	2.6	2.0
Didn't have a choice	5.4	10.9	11.1	9.6
Altruism	8.3	23.5	27.9	30.3
Already accepted assignment	5.5	10.6	9.3	10.0
No particular disadvantage	4.9	6.8	3.8	6.6
Other	10.8	5.0	9.1	5.0
NON-PARTICIPANTS	100.0%	100.0%	100.0%	100.0%
Not economically desirable	2.9	25.6	26.7	25.9
Maintain control over fee	22.2	29.0	28.0	25.5
Philosophically opposed	30.9	21.1	21.5	18.5
Quality of care concerns	2.9	2.2	1.8	3.6
Not enough time or information	5.6	6.4	4.5	6.9
No particular advantage	6.6	6.0	7.1	9.0
Peer opinion/group pressure	11.2	2.6	2.4	1.6
Other	17.7	7.2	8.0	9.0

*Includes only self-employed physicians with any Medicare patients.

**The estimates for EM specialists may be unreliable because of the small number of cases: only 19 physicians are included in the estimates for participants and 17 for non-participants.

The relative importance of specific economic factors varied depending on the level of ER/OPD involvement. EM specialists were twice as likely as other physicians to cite reduced administrative costs as their reason for signing; they were about half as likely to sign to maintain or increase patient load; none signed to raise their Medicare charge profile (versus 8-10 percent of other physicians). Because EM specialists do not have significant control over the patient population served by the hospital ER/OPD, it is not surprising that they were less likely to cite patient caseload concerns.

Finally, EM specialists were far less likely to give altruistic reasons (e.g., help patients or the government) for signing. This, again, may be due to the greater influence of the workplace in decision-making rather than individual physician motivations.

Among non-participants, EM specialists were far less likely to respond that the Medicare PPA was economically undesirable -- only 3 percent cited this reason compared to 26-27 percent of other physicians. Instead, EM specialists who chose not to sign the Medicare PPA were more likely to do so because of philosophical opposition or peer opinion/group pressure.

We conclude from Table 6-4 that self-employed EM specialists have unusually high participation rates because of workplace influences, as expected. Their decision not to participate is also motivated more often by group pressure or by philosophical beliefs. Economic disadvantages were less often cited by non-participating EM specialists, probably because of the lower economic status of their patients and lack of control over their patient population.

APPENDIX A

DEFINITION OF SPECIALTY GROUPS

Specialty Group	AMA Specialty
General Practice	General Practice
Family Practice	Family Practice
Internal Medicine	Internal Medicine
Cardiology	Cardiovascular Disease
Pediatrics	Adolesecent Medicine
	Neonatal-Perinatal Medicine
	Pediatrics
	Pediatric Allergy
	Pediatric Cardiology
	Pediatrics, Endocrinology
	Pediatrics, Hematology-Oncology
	Pediatrics, Nephrology
Other Medical	Allergy
	Allergy and Immunology
	Broncho-Esophagology
	Dermatology
	Diabetes
	Gastroenterology
	Geriatrics
	Hematology
	Infectious Diseases
	Immunology
	Neoplastic Diseases
	Nephrology
	Nutrition
	Oncology
	Pulmonary Diseases
	Rheumatology
General Surgery	Abdominal Surgery
	General Surgery
	Pediatric Surgery
Orthopedic Surgery	Hand Surgery
	Orthopedic Surgery
Ophthalmology	Ophthalmology
Urology	Urological Surgery
Obstetrics/Gynecology	Gynecology
	Obstetrics and Gynecology
	Obstetrics

APPENDIX A (continued)

DEFINITION OF SPECIALTY GROUPS

Specialty Group	AMA Specialty
Other Surgery	Cardiovascular Surgery
	Colon and Rectal Surgery
	Head and Neck Surgery
	Laryngology
	Maxillofacial Surgery
	Neurological Surgery
	Otology
	Otorhinolaryngology
	Plastic Surgery
	Rhinology
	Traumatic Surgery
	Thoracic Surgery
Psychiatry	Child Psychiatry
	Hypnosis
	Psychiatry
	Psychoanalysis
	Psychosomatic Medicine
Anesthesiology	Anesthesiology
Pathology	Bloodbanking
	Clinical Pathology
	Dermatopathology
	Forensic Pathology
	Neuropathology
	Pathology
	Radioisotophic Pathology
Radiology	Diagnostic Radiology
	Nuclear Medicine
	Nuclear Radiology
	Podiatric Radiology
	Radiology
	Therapeutic Radiology
Other Specialties	Aerospace Medicine
	Child Neurology
	Emergency Medicine
	General Preventive Medicine
	Legal Medicine
	Neurology
	Occupational Medicine
	Other Specialty
	Clinical Pharmacology
	Public Health
	Physical Medicine and Rehabilitation
	Unspecified

APPENDIX B

DEFINITION OF REGIONS

NORTHEAST

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut

Middle Atlantic: New York, New Jersey, Pennsylvania

SOUTH

South Atlantic: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida

East South Central: Kentucky, Tennessee, Alabama, Mississippi

West South Central: Arkansas, Louisiana, Oklahoma, Texas

NORTH CENTRAL

East North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin

West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas

WEST

Mountain: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada

Pacific: Washington, Oregon, California, Alaska, Hawaii

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